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EXAMINER	
TORRES, JUAN A	
ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/884,585	MCDONOUGH ET AL.	
	Examiner	Art Unit	
	Juan A. Torres	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) *3 and 10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-9 and 11-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings were received on 02/07/2005. These drawings are accepted by the Examiner.

Specification

The specification is accepted by the Examiner.

Claim Rejections - 35 USC § 112

In view of the amendment filed on 02/07/2005, the Examiner withdraws the 35 USC § 112 rejections to claims 13-14 of the previous Office Action.

Response to Arguments

Applicant's arguments filed on 02/07/2005 have been fully considered but they are not persuasive.

The Applicant contends, "Independent claims 1, 15, and 25 are amended to include limitations from claim 10. Claim 10 is cancelled without prejudice. Claim 1, as amended, recites "A method for shining the phase of a pseudorandom noise (PN) code, the method comprising: accepting a PN code with a first phase; determining a first time interval; *selecting a plurality of phase-shifting masks in response to the first time interval; shifting the PN code first phase with each phase-mask from the plurality of selected phase-shifting masks*; and generating a PN code with a second phase, offset by the first time interval from the PN code first phase." (emphasis added).".

The Examiner disagrees and asserts, that, Storm (US 6175561) discloses a method for shifting the phase of a pseudorandom noise (PN) code comprising accepting

a PN code with a first phase (figure 2 block 208 column 6 lines 29-34); determining a first time interval (figure 2 block 214 column6 lines 44-46 and column 6 line 56); selecting a plurality of phase-shifting masks in response to the first time interval (figure 2 block 214, the register 214 thus stores the initial state (first time interval) of the NRT LSG 208 to allow the NRT LSG to be reset to its initial reference value column 6 lines 44-46 column 6 lines 58-60); shifting the PN code first phase with each phase-shifting mask from the plurality of selected phase-shifting masks (figure 2 block 210 the mask circuit 210 employs a predetermined mask that, when Exclusive-ORed with the contents of the NRT LSG 208, yields the correct state of the PN generator 205 at a predetermined time in the future; the mask circuit 210 is loaded with any mask stored in the mask register 212, such as mask 1, mask 2, . . . mask M; the masks correspond to individual phases of the *phase space* of the pilot signals in the communication system 100 (FIG. 1); column 6 lines 53-64, column 7 lines 54-58 said that at step 308, an acquisition mask is loaded from the mask register 212; the acquisition mask is a mask suitable for initial acquisition of a pilot signal and is, for example, a zero shift mask which does not shift the contents of the NRT LSG 208); and generating a PN code with a second phase, offset by the first time interval from the PN code first phase (figure 2 block 205 column 5 line 31-33).

The Applicant contends, "Claim 15, as amended, recites "A receiver, comprising; a memory having a port to supply a plurality of phase-shifting masks; *an application means to determine a first time interval, the application means cross-referencing the first time interval to the plurality of phase-shifting masks*, the application means having

an output connected to the memory port to request the plurality of phase-shifting masks; and a pseudorandom noise (PN) code generator having a first input connected to the memory to accept the plurality of phase-shifting masks, *the PN code generator offsetting a PN code with each phase-shifting mask of the plurality of phase-shifting masks*, the PN code generator having an output to supply the PN code with a second phase, offset from the PN code first phase." (emphasis added).".

The Examiner disagrees and asserts, that, Storm (US 6175561) in figure 2 discloses a direct sequence spread spectrum (DSSS) communications network (column 4 lines 2-10) with a receiver (block 114 column 5 line 19) comprising a memory (block 212 column 6 line 57) having a port to supply a plurality of phase-shifting masks (connection of blocks 212 and 210 column 6 line 53); an application means to determine a first time interval (The NRT LSG 208 is a conventional LSG which produces a sequence identical to the sequence produced by the RT LSG 206 when loaded with the same state and clocked via input 24; the searcher receiver 114 loads the state of the RT LSG 206 into the NRT LSG 208 at a particular point in time relative to storing the predetermined number of samples in the sample buffer 202; at substantially the same time, the contents of the RT LSG 206 are transferred into the register 214 for subsequent use. The operation of loading the NRT LSG state from the RT LSG state at a specific point in time relative to filling the buffer provides a *timing reference*. From this timing reference, outputs from non-real time circuits can be mapped to real-time timing adjustments using the slew counter 217. The register 214 thus stores the initial state of the NRT LSG 208 to allow the NRT LSG to be reset to its initial reference value; column

6 line 30-56), the application means cross-referencing the first time interval to the plurality of phase-shifting masks (The mask circuit 210 employs a predetermined mask that, when Exclusive-ORed with the contents of the NRT LSG 208, yields the correct state of the PN generator 205 at a predetermined time in the future. The mask circuit 210 is loaded with any mask stored in the mask register 212, such as mask 1, mask 2, . . . mask M. *The masks correspond to individual phases of the phase space of the pilot signals in the communication system* 100 (FIG. 1) column 6 lines 58-60), the application means having an output connected to the memory port to request the plurality of phase-shifting masks (column 6 lines 53-56); and a pseudorandom noise (PN) code generator (block 205 column 5 line 33) having a first input connected to the memory to accept the plurality of phase-shifting masks (block 210 column 6 lines 53-56), the PN code generator offsetting a PN code with each phase-shifting mask of the plurality of phase-shifting masks (column 6 line 56), the PN code generator having an output to supply the PN code with a second phase (block 205 column 5 line 33), offset from the PN code first phase (column 1 lines 41-43).

The Applicant contends, "Claim 25, as amended, recites " A method for conserving power in a slotted mode of operation, the method comprising: storing a plurality of phase-shifting masks; generating a synchronized pseudorandom noise (PN) code to despread transmissions; accepting a slotted mode sleep second time interval from a plurality of second time intervals; beginning the sleep mode at a first phase of the PN code; ending the sleep interval; determining the first time interval between the beginning and the end of the sleep interval; and selecting a plurality of phase-shilling

masks from storage in response to the first time interval; offsetting the PN code first phase with each phase-shifting mask from the plurality of selected phase-shifting masks; generating the PN code with a second phase; and resynchronizing the generated PN code to despread transmissions." (emphasis added).".

The Examiner disagrees and asserts, that, as indicated in the previous Office Action, Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Storm (US 6175561), and further in view of Easton (US 6590886). Storm discloses a method for conserving power in a slotted mode of operation (column 3 lines 6-17) comprising: storing a plurality of phase-shifting masks (figure 2 block 212 column 6 lines 53-60); generating a synchronized pseudorandom noise (PN) code to de-spread transmissions (figure 2 block 205 column 5 lines 34-39); accepting a slotted mode sleep second time interval from a plurality of second time intervals (column 3 lines 6-17 and figure 3 block 310 column 7 lines 59-60); selecting a plurality of phase-shifting masks from storage in response to the first time interval (figure 2 block 210 column 6 lines 53-60); offsetting the PN code first phase with each phase-shifting mask from the plurality of selected phase-shifting masks (figure 2 block 210 column 6 lines 53-60); generating the PN code with a second phase (figure 2 block 205 column 6 lines 55-56); and resynchronizing the generated PN code to despread transmissions (figure 2 block 217 column 7 lines 35-38). Storm doesn't disclose specifically that the time interval corresponds to the difference beginning and the end of the sleep time interval. Easton discloses the beginning the sleep mode at a first phase of the PN code (figure 2 column 5 line 5 to column 6 line 14); ending the sleep interval (figure 2 column 6 line 4); determining the

first time interval between the beginning and the end of the sleep interval (column 8 line 54). Storm and Easton are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the alignment method disclosed by Easton in the CDMA receiver disclosed by Storm. The suggestion/motivation for doing so would have been to save power in the slotted mode sleep interval avoiding gross PN sequence misalignment and (Easton column 8 lines 45-56). Therefore, it would have been obvious to combine Storm and Easton to obtain the invention as specified in claim 25. In this case the emphasis added is not clear from the remarks of the Applicant.

The Applicant contends, "Applicants fail to find the foregoing emphasized limitations in any of the cited references, taken alone or in combination. Thus, applicants respectfully submit that independent claims 1, 15, and 25, as amended are patentable under 35 U.S.C. 102(e)".

The Examiner disagrees and asserts, that, the applicant claims are not patently difference form the references cited, as have been point out in the previous and in the present Office Action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 4-6, 13 and 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Storm (US 6175561).

As per claim 1 Storm discloses a method for shifting the phase of a pseudorandom noise (PN) code comprising accepting a PN code with a first phase (figure 2 block 208 column 6 lines 29-34); determining a first time interval (figure 2 block 214 column6 lines 44-46 and column 6 line 56); selecting a plurality of phase-shifting masks in response to the first time interval (figure 2 block 214 column6 lines 44-46 and column 6 lines 58-60); shifting the PN code first phase with each phase-shifting mask from the plurality of selected phase-shifting masks (figure 2 block 210 column 6 lines 53-64, column 7 lines 54-58); and generating a PN code with a second phase, offset by the first time interval from the PN code first phase (figure 2 block 205 column 5 line 31-33).

As per claim 2 Storm discloses a method for determining a first time interval that includes accepting a first time interval from among a plurality of first time intervals (figure 2 blocks 206 and 214 column 6 lines 23-29 and 44-46 and 58-59).

As per claim 4 Storm discloses a method further comprising generating the PN code at a first chip period (figure 2 block 114 column 5 lines 23-25); and accepting a second time interval proportionally related to the first chip period (figure 4 block 412 column 9 lines 5-14).

As per claim 5 Storm discloses a method for accepting a plurality of second time intervals (figure 4 block 412 column 9 lines 5-14).

As per claim 6 Storm discloses a method for determining a first time interval from among a plurality of first time intervals that are offset from each other by predetermined periods of time (figure 4 block 412 column 9 lines 5-14).

As per claim 13 Storm discloses that the plurality of phase-shifting masks are selected from a number of stored phase-shifting masks, and the number of stored phase-shifting masks is adjustable (figure 4 block 412 column 9 lines 5-14 number of phases of the pilot signal).

As per claim 15 Storm (US 6175561) in figure 2 discloses a direct sequence spread spectrum (DSSS) communications network (column 4 lines 2-10) with a receiver (block 114 column 5 line 19) comprising a memory (block 212 column 6 line 57) having a port to supply a plurality of phase-shifting masks (connection of blocks 212 and 210 column 6 line 53); an application means to determine a first time interval (column 6 line 56), the application means cross-referencing the first time interval to the plurality of phase-shifting masks (column 6 lines 58-60), the application means having an output connected to the memory port to request the plurality of phase-shifting masks (column 6 lines 53-56); and a pseudorandom noise (PN) code generator (block 205 column 5 line 33) having a first input connected to the memory to accept the plurality of phase-shifting masks (block 210 column 6 lines 53-56), the PN code generator offsetting a PN code with each phase-shifting mask of the plurality of phase-shifting masks (column 6 line 56), the PN code generator having an output to supply the PN code with a second phase (block 205 column 5 line 33), offset from the PN code first phase (column 1 lines 41-43).

As per claim 16 Storm (US 6175561) in figure 2 discloses a memory including a plurality of phase-shifting masks (column 6 lines 56-58); and application means cross-references a plurality of time intervals to the plurality of phase-shifting masks in memory (column 6 lines 53-56)

As per claim 17 Storm (US 6175561) in figure 2 discloses a PN code generator that generates the PN code at a first chip period (block 205 column 5 line 34); determines a first time interval proportionally related to the first chip period (column 6 line 56); and a memory supplies a phase-shifting mask that is offset by a PN code phase shift proportionally related to the first time interval (block 212 column 6 lines 56-58).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7-9, 11, 12, 18-19 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Storm (US 6175561) as applied to claim 6 above, and further in view of Rueth (US 5228054).

As per claim 7 and 18 Storm discloses claim 6 and 17. Storm doesn't teach specifically that the PN code has $(2^N - 1)$ states with a period m= $(2^N - 1)$, though he discloses (column 1 lines 41-50) how in the case of the TIA/EIA IS-95 standard the sequence is of length 2^{15} and that the minimum time separations are 64 chips in length

allowing a total of 512 different PN code phase assignments for the base stations (2^N=32768=64*512). Rueth discloses in column 5 lines 14-19 that the use of the N-bit mask can be set to provide any one of the (2^N – 1) different shifts of the basic sequence. The mask input bus is set to a predetermined value so as to result in the desired phase shift of the second output. Storm and Rueth are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the method disclosed by Rueth in the CDMA receiver disclosed by Storm. The suggestion/motivation for doing so would have been to use a maximal length sequence (Rueth column 1 lines 31-32). Therefore, it would have been obvious to combine Storm and Rueth to obtain the invention as specified in claims 7 and 18.

As per claims 8 and 19, Storm and Rueth disclose claim 7 and 18. Storm discloses a method further comprising generating the PN code at a first chip period (figure 2 block 114 column 5 lines 23-25). Storm and Rueth are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the method disclosed by Rueth in the CDMA receiver disclosed by Storm. The suggestion/motivation for doing so would have been to use a maximal length sequence (Rueth column 1 lines 31-32). Therefore, it would have been obvious to combine Storm and Rueth to obtain the invention as specified in claims 8 and 19.

As per claim 9, Storm and Rueth disclose claim 7. Storm discloses a method further comprising generating the PN code at a first chip period (figure 2 block 114

column 5 lines 23-25); and accepting a second time interval proportionally related to the first chip period (figure 3 block 308 column 7 lines 54-62). In the case of the IS-95 presented by Storm x=1 q=64 for IS-95. Storm and Rueth are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the method disclosed by Rueth in the CDMA receiver disclosed by Storm. The suggestion/motivation for doing so would have been to use a maximal length sequence (Rueth column 1 lines 31-32). Therefore, it would have been obvious to combine Storm and Rueth to obtain the invention as specified in claim 9.

As per claim 11, Storm and Rueth disclose claim 7. Storm discloses a direct sequence spread spectrum (DSSS) receiver (column 4 lines 2-10) with a memory is included (block 212 column 6 line 57), determining a first time interval in the range between x and nx (column 1 lines 39-50 column 6 line 57); storing n phase-shifting masks in memory, corresponding to the plurality of first time periods between x and nx (column 1 lines 39-50, figure 2 block 212, column 6 lines 56-58); and selecting a phase-shifting mask from the n phase-shifting masks stored in memory (figure 2 block 210 column 6 line 53). Storm and Rueth are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the method disclosed by Rueth in the CDMA receiver disclosed by Storm. The suggestion/motivation for doing so would have been to use a maximal length sequence (Rueth column 1 lines 31-32). Therefore, it would have

been obvious to combine Storm and Rueth to obtain the invention as specified in claim 11.

As per claim 12, Storm and Rueth disclose claim 7. Storm inherently discloses a direct sequence spread spectrum (DSSS) receiver with a memory is included, where determining a first time interval includes determining a first time interval from a plurality of first time intervals in the range between x and nx; the method further comprising: storing $\log_2$ (n) phase-shifting masks in memory corresponding to $\log_2$ (n) intermediate time intervals between x and nx (figure 2 block 212 column 1 lines 42-51 and column 6 lines 53-60); summing intermediate first time intervals to form a first time interval sum (figure 2 block 210 column 6 lines 53-60); where selecting a plurality of phase-shifting masks includes selecting phase-shifting masks from memory corresponding to each of the intermediate time intervals in the first time interval sum (figure 2 block 210 column 6 lines 53-60); and where shifting the PN code first phase with phase-shifting mask includes shifting the PN code first phase with the phase-shifting masks selected from memory (figure 2 block 210 column 6 lines 53-60). Storm and Rueth are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the method disclosed by Rueth in the CDMA receiver disclosed by Storm. The suggestion/motivation for doing so would have been to use a maximal length sequence (Rueth column 1 lines 31-32). Therefore, it would have been obvious to combine Storm and Rueth to obtain the invention as specified in claim 12.

As per claim 21, Storm and Rueth disclose claim 18. Storm also discloses a plurality of first time intervals in the range between x and nx (figure 2 block 212 column 1 lines 39-50 column 6 line 57); and the memory includes n phase shift masks corresponding to the plurality of first time periods between x and nx (figure 2 block 212 column 1 lines 39-50, block 212 column 6 lines 56-58). Storm and Rueth are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the method disclosed by Rueth in the CDMA receiver disclosed by Storm. The suggestion/motivation for doing so would have been to use a maximal length sequence (Rueth column 1 lines 31-32). Therefore, it would have been obvious to combine Storm and Rueth to obtain the invention as specified in claim 21.

As per claim 22, Storm and Rueth disclose claim 18. Storm inherently also discloses a plurality of time intervals in the range between x and nx (figure 2 block 212 column 1 lines 42-51 and column 6 lines 53-60); where the application means selects a plurality of $\log_2$ (n) time intervals to form a first interval sum; where the memory includes $\log_2$ (n) phase-shifting masks corresponding to $\log_2$ (x) intermediate time intervals between x and nx (figure 2 block 212 column 1 lines 42-51 and column 6 lines 53-60); and where the application means selects a plurality of phase-shifting masks from memory corresponding to a plurality of time intervals in the first time interval sum (figure 2 block 212 column 1 lines 42-51 and column 6 lines 53-60); where the memory supplies the selected phase-shifting masks to the PN code generator (figure 2 block 210 column 1 lines 42-51 and column 6 lines 53-60); and wherein the PN code generator

iteratively shifts the PN code first phase with each of the plurality of selected phase-shifting masks to supply the PN code second phase (figure 4 block 414 column 9 lines 9-12). Storm and Rueth are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the method disclosed by Rueth in the CDMA receiver disclosed by Storm. The suggestion/motivation for doing so would have been to use a maximal length sequence (Rueth column 1 lines 31-32). Therefore, it would have been obvious to combine Storm and Rueth to obtain the invention as specified in claim 22.

Claims 14, 20, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Storm (US 6175561) as applied to claim 6 above, in view of Rueth (US 5228054) and further in view of Easton (US 6590886).

As per claim 14, Storm and Rueth disclose claim 11. Storm also discloses a DSSS receiver accepts transmissions spread using the first PN code, and in which the DSSS receiver includes a first chip rate clock (column 4 lines 2-10). Storm and Rueth fail to disclose that their method could be used to weak up a receiver that is slotted mode sleep interval with the appropriate PN phase shift. Easton discloses that to avoid gross PN sequence misalignment, a change in PN masks corresponding to the change in alignment is needed. Easton discloses that instead of the a mask derived from the transmitter PN offset alone, the programmed mask value consists of a base PN offset derived from the transmitter PN offset combined with a component tracking the remainder of the programmed sleep intervals integrated across all previous slots

modulo a PN sequence period. Storm, Rueth and Easton are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the alignment method disclosed by Easton in the CDMA receiver disclosed by Storm and Rueth. The suggestion/motivation for doing so would have been to save power in the slotted mode sleep interval of a DSSS system avoiding gross PN sequence misalignment and (Easton column 8 lines 45-56). Therefore, it would have been obvious to combine Storm, Rueth and Easton to obtain the invention as specified in claim 14.

As per claim 20, Storm and Rueth disclose claim 18. Storm also discloses a method further comprising generating the PN code at a first chip period (column 5 lines 23-25); and accepting a second time interval proportionally related to the first chip period (column 7 lines 59-60). In the case of the IS-95 presented by Storm x=1 q=64 for IS-95. Easton (US 6590886) discloses a sleep clock (block 203) having an output connected to the application means (block 204) and wherein the application means plurality of time intervals have a resolution of x equal to the sleep clock period (column 8 lines 45-56). Storm, Rueth and Easton are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the alignment method disclosed by Easton in the CDMA receiver disclosed by Storm and Rueth. The suggestion/motivation for doing so would have been to save power in the slotted mode sleep interval of a DSSS system avoiding gross PN sequence misalignment and (Easton column 8 lines

45-56). Therefore, it would have been obvious to combine Storm, Rueth and Easton to obtain the invention as specified in claim 20.

As per claim 23, Storm and Rueth disclose claim 18. Storm also discloses a searcher section (block 114), having an input connected to PN code generator output to accept the PN code with the second phase shift, the searcher section re-synchronizing the accepted transmissions with the generated PN code (column 5 lines 40-47). Storm and Rueth don't disclose the predetermined time interval to be the time during the clock is power-down. Easton discloses (column 1 lines 60-64) that during the save power state the clock is shut off, and (column 8 lines 45-56) that to avoid gross PN sequence misalignment, a change in PN masks corresponding to the change in alignment is needed. Easton discloses that instead of the a mask derived from the transmitter PN offset alone, the programmed mask value consists of a base PN offset derived from the transmitter PN offset combined with a component tracking the remainder of the programmed sleep intervals integrated across all previous slots modulo a PN sequence period. Storm, Rueth and Easton are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the alignment method disclosed by Easton in the CDMA receiver disclosed by Storm and Rueth. The suggestion/motivation for doing so would have been to save power in the slotted mode sleep interval of a DSSS system avoiding gross PN sequence misalignment and (Easton column 8 lines 45-56). Therefore, it would have been obvious to combine Storm, Rueth and Easton to obtain the invention as specified in claim 23.

As per claim 24, Storm, Rueth and Easton disclose claim 23. Easton discloses an application means that accepts a second time interval corresponding to a slotted sleep mode interval (figure 2 column 6 line 1), with the application means programs the PN code generator to be powered off for the second time interval (Column 1 lines 60-64); and the application means determines the first time interval in response the actual time that the PN code generator was powered-off (figure 2 column 8 lines 54-55). Storm, Rueth and Easton are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the alignment method disclosed by Easton in the CDMA receiver disclosed by Storm and Rueth. The suggestion/motivation for doing so would have been to save power in the slotted mode sleep interval of a DSSS system avoiding gross PN sequence misalignment and (Easton column 8 lines 45-56). Therefore, it would have been obvious to combine Storm, Rueth and Easton to obtain the invention as specified in claim 24.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Storm (US 6175561), and further in view of Easton (US 6590886). Storm discloses a method for conserving power in a slotted mode of operation (column 3 lines 6-17) comprising: storing a plurality of phase-shifting masks (figure 2 block 212 column 6 lines 53-60); generating a synchronized pseudorandom noise (PN) code to de-spread transmissions (figure 2 block 205 column 5 lines 34-39); accepting a slotted mode sleep second time interval from a plurality of second time intervals (column 3 lines 6-17 and figure 3 block 310 column 7 lines 59-60); selecting a plurality of phase-shifting masks from storage in

response to the first time interval (figure 2 block 210 column 6 lines 53-60); offsetting the PN code first phase with each phase-shifting mask from the plurality of selected phase-shifting masks (figure 2 block 210 column 6 lines 53-60); generating the PN code with a second phase (figure 2 block 205 column 6 lines 55-56); and resynchronizing the generated PN code to despread transmissions (figure 2 block 217 column 7 lines 35-38). Storm doesn't disclose specifically that the time interval corresponds to the difference beginning and the end of the sleep time interval. Easton discloses the beginning the sleep mode at a first phase of the PN code (figure 2 column 5 line 5 to column 6 line 14); ending the sleep interval (figure 2 column 6 line 4); determining the first time interval between the beginning and the end of the sleep interval (column 8 line 54). Storm and Easton are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the alignment method disclosed by Easton in the CDMA receiver disclosed by Storm. The suggestion/motivation for doing so would have been to save power in the slotted mode sleep interval avoiding gross PN sequence misalignment and (Easton column 8 lines 45-56). Therefore, it would have been obvious to combine Storm and Easton to obtain the invention as specified in claim 25.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres
04-08-2005

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SUPERVISORY PATENT EXAMINER